



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS MANAGEMENT PROGRAM

Well Record and Completion Report

DEP USE ONLY	
Site ID	Primary Fac ID
Client Id	Subfacility Id

Well Operator Range Resources - Appalachia, LLC	DEP ID# 141142	Well API # (Permit / Reg) 37125-23871	Project Number	Acres 1181
Address 380 Southpointe Blvd, Suite 300		Well Farm Name Goettel	Well # 8H	Serial #
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Independence Twp
Phone 724-743-6700	Fax 724-743-6790	USGS 7.5 min. quadrangle map West Middletown		

Check all that apply: Original Well Record Original Completion Report Amended Well Record Amended Completion Report

WELL RECORD Also complete the Log of Formations on back (page 2)

Well Type	<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Oil	<input type="checkbox"/> Combination Oil & Gas	<input type="checkbox"/> Injection	<input type="checkbox"/> Storage	<input type="checkbox"/> Disposal	
Drilling Method	<input type="checkbox"/> Rotary - Air	<input checked="" type="checkbox"/> Rotary - Mud	<input type="checkbox"/> Cable Tool				
Date Drilling Started 12/14/09	Date Drilling Completed 6/17/10	Surface Elevation 1318 ft.	Total Depth - Driller 8869 ft.	Total Depth - Logger 8869 ft.			
Casing and Tubing		Cement returned on surface casing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cement returned on coal protective casing? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A					
Hole Size	Pipe Size	Wt.	Thread / Weld	Amount in Well (ft)	Material Behind Pipe Type and Amount	Packer / Hardware / Centralizers Type Size Depth	Date Run
30"	26"	108#	Thread	40'	Driven	-- 26" 40'	12/14/09
24"	20"	81.3#	Thread	283'	Gas Block, 320 sx	GS 20" 283'	12/30/09
12-1/4"	9-5/8"	36#	Thread	1846'	Class A GB, 865 sx	GS 9-5/8" 1846'	1/7/10
8-3/4"	5-1/2"	20#	Thread	8868'	50/50 12% poz, 980 sx	FS 5-1/2" 8868'	6/17/10
					50/50 13% poz, 200 sx		
					Class A, 430 sx		

COMPLETION REPORT

Perforation Record			Stimulation Record						
Date	Interval Perforated From	To	Date	Interval Treated	Fluid Type	Amount	Propping Agent Type	Amount	Average Injection Rate
8/9/10	6,542'	8,750'	8/24/10	Marcellus Shale	Slick H2O	73,039 bbl	Sand	4,022k lbs	66.2 bpm
Natural Open Flow			too small to measure		Natural Rock Pressure		Undeterminable		Hours Days
After Treatment Open Flow			Not enough time to measure		After Treatment Rock Pressure		Undeterminable		Hours Days

Well Service Companies -- Provide the name, address, and phone number of all well service companies involved.

Name Patterson UTI	Name Universal Well Services	Name Frac Tech
Address 4501 Lamesa Highway	Address 730 Braddock View Dr	Address 16858 IH20
City - State - Zip Snyder, TX 79549	City - State - Zip Mt. Braddock, PA 15465	City - State - Zip Cisco, TX 76437
Phone 325-574-6300	Phone 724-430-6201	Phone 817-850-1008

LOG OF FORMATIONSWell API#: **37-125-23871-**_____*(If you will need more space than this page, please photocopy the blank form before filling it in.)*

Formation Name or Type	Top (feet)	Bottom (feet)	Gas at (feet)	Oil at (feet)	Water at (fresh / brine; ft.)	Source of Data
Fill	0'	52'				Drillers Log
Sand	52'	82'				Drillers Log
Sandy Shale	82'	112'				Drillers Log
Shale	112'	172'				Drillers Log
Shale and Sand	172'	372'				Drillers Log
Shale	372'	522'				Drillers Log
Sand and Redrock	522'	600'				Drillers Log
Sandy Shale	600'	792'				Drillers Log
Shale	792'	852'				Drillers Log
Sandy Shale	852'	882'				Drillers Log
Shale	882'	1002'				Drillers Log
Sandy Shale	1002'	1062'				Drillers Log
Shale and Redrock	1062'	1122'				Drillers Log
Sandy Shale	1122'	1302'				Drillers Log
Sand	1302'	1392'				Drillers Log
Shale	1392'	1422'				Drillers Log
Sandy Shale	1422'	3540'				Drillers Log
Shale	3540'	3780'				Drillers Log
Sandy Shale	3780'	4050'				Drillers Log
Redrock	4050'	4260'				Drillers Log
Sand	4260'	4290'				Drillers Log
Sand & Shale	4290'	4590'				Drillers Log
Shale	4590'	4800'				Drillers Log
Sand	4800'	4830'				Drillers Log
Sand and Shale	4830'	4890'				Drillers Log
Shale	4890'	5040'				Drillers Log
Sand and Shale	5040'	5100'				Drillers Log
Sand	5100'	5350'				Drillers Log
Shale and Sand	5350'	5580'				Drillers Log
Shale	5580'	5790'				Drillers Log
Sand and Shale	5790'	5880'				Drillers Log
Shale	5880'	5900'				Drillers Log
Gray Shale	5900'	6000'				Drillers Log
Horizontal						
Shale	5480'	6190'				Drillers Log
Limestone	6190'	6270'				Drillers Log
Shale	6270'					Drillers Log
Drillers Total Depth		8869'				Drillers Log

I do hereby certify to the best of my knowledge, information and belief that the well identified on this Well Record and Completion Report has been properly cased and cemented in accordance with the requirements of 25 Pa. Code Chapter 78 and any conditions contained in the permit for this well. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator's Signature**DEP USE ONLY**

Reviewed by:

Date:

Title:

Date:

Michael Hurey-Completions Engineer 9/9/10

Comments:



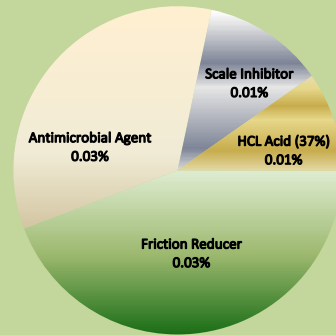
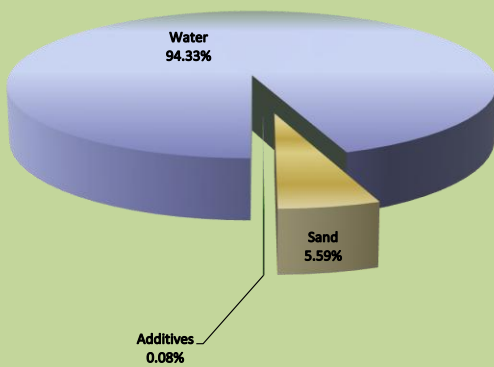
RANGE RESOURCES

Goettel Unit #8H
Well API: 37-125-23871

Completion Date: August 9 - 24, 2010
Township: Independence

% Composition of Hydraulic Fracture Fluid (by volume)						
Product Name	Additive	Purpose	Use and Dillution	Volume	Overall %	Common Uses
Water	Carrier Fluid	Creates fracture network in shale and carry proppant to the formation	Primary constituent	3,067,649 gal	94.33%	Water is the most abundant molecule on the Earth's surface
Sand	Sand	Allows fractures to remain open so gas can escape	Second most common constituent, making up almost 6% of the fluid	181,789 gal	5.59%	Drinking water filtration, play sand
FRW-200	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	1,116 gal	0.03%	Water treatment; soil conditioner; some children's toys
MC B-8642/Bioban	Antimicrobial Agent	Eliminates bacteria in the water that produce corrosive byproducts	Diluted at one-half gallon per 1,000 gallons of water	861 gal	0.03%	Water treatment, disinfectant; sterilize medical and dental equipment and surfaces
MX 588-2	Scale Inhibitor	Prevents scaling in pipe	Diluted at one-tenth gallon per 1,000 gallons of water	301 gal	0.01%	Water treatment, household cleaners, de-icing agent
HCL Acid	Perf Clean-Up	Dissolves cement and minerals to help initiate fractures	139 gallons per stage (non-diluted chemicals)	247 gal	0.01%	Swimming pool and household cleaner

Composition of Hydraulic Fracture Fluid (by volume)





Composition of Components in Marcellus Shale Hydraulic Fracturing Fluid

RANGE RESOURCES

Common Name & Supplier	Supplier Chemical Name	Common Description	Hazardous Component listed on MSDS	Purpose	MSDS Component Weight % of Chemical	Gallons MSDS Component in Well	Maximum Concentration of MSDS Component of Total Stage Fluid	
							% Vol	% Weight
7.5% HCl Mixture (FracTech)	37% HCL	concentrated HCl Acid	HCL	Cleans perforation	37.0%	247.33	0.0076%	0.0031%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	7.63	0.0002%	0.0002%
			Propargyl Alcohol	Protects casing	5.0%	0.33	0.0000%	0.0000%
	NE100	Non- Emulsifer	No hazardous ingredients	Prevents emulsions	0.0%	N/A	N/A	N/A
FE100L	Iron Chelator	No hazardous ingredients	Prevents precipitation	0.0%	N/A	N/A	N/A	N/A
TOTAL							0.0079%	0.0032%

Friction Reducer (FracTech)	FRW-200	Friction Reducer	No hazardous ingredients	Reduce friction down casing	0.0%	N/A	N/A	N/A
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Scale Inhibitor (Multichem)	MC MS S-2510T	Scale Inhibitor	Sodium hydroxide	prevents scale deposits in pipe and perforations	5.0%	11.02	0.0003%	0.0005%
			Ethylene Glycol		60.0%	179.00	0.0055%	0.0057%
TOTAL							0.0058%	0.0062%

Antibacterial Agent (Multichem)	Bioban	Antibacterial Agent	4,4-Dimethyloxazolidine	eliminates bacteria in water	78.0%	473.06	0.0145%	0.0134%
			3,4,4-Trimethyloxazolidine		5.0%	30.97	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	6.49	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	2.82	0.0001%	0.0001%
	BMC B-8642	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	60.0%	106.59	0.0033%	0.0045%
			n-alkyl dimethyl benzyl ammonium chloride		10.0%	17.76	0.0005%	0.0008%
			Ethanol		1.0%	1.78	0.0001%	0.0001%
TOTAL							0.0158%	0.0145%

SUMMARY	by vol %	by weight %
	0.029%	0.024%